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| 09/545,017 | 04/07/2000 | William H. Blair | 683120/98003 | 9450 |

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| EXAMINER |
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PECHHOLD, ALEXANDRA K

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| ART UNIT | PAPER NUMBER |
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3671

DATE MAILED: 06/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|--------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/545,017 | BLAIR ET AL. |
| Examiner | Art Unit | |
| Alexandra K Pechhold | 3671 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 18 March 2002 and 17 May 2002.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-8 and 10-32 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

| | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-8 and 10-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites the limitation "said top point" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Johansson (WO 91/19856).

Regarding claim 1, Johansson discloses a road vehicle speed restriction device comprising a number of interconnected profile bodies (1) as seen in Fig. 1. Each profile body (1) has a bottom and a top surface as shown in Fig. 2, with the top surface starting at a front edge of the bottom, rising to a top point above the bottom, and falling to the back edge of the bottom. The means for pivotally interconnecting the speed bumps is

disclosed as chain links (10). Johansson states in claim 2, lines 18-20, that the profile bodies (1) are hingedly interconnected by means of links (10) extending between the end walls (8) of juxtaposed profile bodies. A means for supporting the weight of the vehicle to support the top point a fixed distance above the bottom is seen in Johansson by the rigid structure of the arched-shaped sheet metal piece (2) (page 2, lines 27-28), which retains its shape and allows the vehicle wheels to travel thereover (page 3, lines 14-23). With respect to the recitation that "the portable speed bump unit is stored by rolling up said plurality of speed bump cells and is deployed by unrolling said plurality of speed bump cells", it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Regarding claim 2, Johansson illustrates in Fig. 2 the profile body (1) having a cross section *generally* trapezoidal in shape.

Regarding claim 3, Johansson illustrates in Fig. 2 the profile body (1) having a cross section *generally* rounded in shape.

Regarding claim 4, Johansson illustrates in Figs. 1 and 2 a top point centrally located on the top surface of the profile body (1).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5-8, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson (WO 91/19856).

Regarding claim 5, Johansson discloses the limitations of the claimed invention except for the top point being askew from a centrally located point on the top surface of the profile body (1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the location of the top point on the top surface of the profile body of Johansson to be askew from a centrally located point, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Regarding claims 6, 7, and 8, Johansson discloses the limitations of the claimed invention except for the exact distinction of sides, or their length, or angles. Johansson illustrates first and second bottom edges at the extreme left and right ends of profile body (1) in Fig. 2. The first and second lower sides are seen as extending upwardly from the roadway in Fig. 2. The first and second upper sides are seen extending towards the top of the profile body (1) in Fig. 2. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the cross section of the profile body (1) in Fig. 2 of Johansson to have a more angular surface in order to define exact upper and lower sides, and having first and second lower sides equal in length and the same angle of slope within the range of about 20 degree to about 35 degrees, or first and second upper sides equal in length and having the same angle of

slope within the range of about 5 degrees to about 20 degrees, since modifying the profile of the cross section is considered a design choice within ordinary skill in the art. Furthermore, regarding the range of about 20 degrees to about 35 degrees, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 21, Johansson discloses a pad, seen as elongate feet (3) and (4) having ribs (5) and (6), the ribs joined to the sheet metal base (9), as shown in Fig. 2. Johansson does not specifically disclose the means for securing the ribs to the base, only stating on page 2, lines 35-36 that the sheet metal base (9) extends between the feet (3) and (4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the connection between the sheet metal base and ribs on the feet of Johansson to have a securing means, since clearly these parts must be securely joined in order for the speed bump to operate as a complete structure and not fall apart when a vehicle drives passes over.

Regarding claim 22, Johansson discloses on page 2, lines 30-33 that the ribs (5) and (6) consist of material having a high coefficient of friction against an asphalt-covered roadway (7).

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson (WO 91/19856) as applied to claim 1 above and further in view of Jensen (US 5,639,179). Johansson discloses the limitations of the claimed invention except for the hinge bar having a female connector on a first end and a male connector on a

second end. Johansson discloses pivotally interconnecting profile bodies (1) having support channels formed through holes in the end walls (8) as shown in Fig. 3. The hinge bars are seen as the chain links (10) in Fig. 3, and the means for maintaining each hinge bar within each support channel is seen as a nut (12) and bolt (11) assembly in Fig. 3. Jensen teaches a vehicular traffic control device and hinge devices for connecting the devices in tandem. As seen in Figs. 5-7, Jensen illustrates the hinge device comprising a male connector, seen as hinge pin (24), and a female connector seen as the central opening (27) in connector (26). Hence, the hinge pin (24) of one barrier (10) is joined to the central opening (27) of the connector (26) of another barrier (10) to form the hinge device. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the chain links (10) of Johansson to incorporate male and female connectors as taught by Jensen, since both form the desired hinge, creating a pivotable connection.

8. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson (WO 91/19856) as applied to claim 1 above and further in view of Alghunaim (US 5,513,924). Johansson discloses the limitations of the claimed invention except for the color of the speed bump and reflective markings. Alghunaim teaches a retroreflective pavement marker, stating that a large number of such markers employ retroreflectors which retroreflect light emanating from oncoming vehicles to provide a signal visible to the operators of such oncoming vehicles (Col 1, lines 18-21). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the road vehicle speed restriction device of Johansson to have a bright,

reflective color, or have reflective markings as taught by Alghunaim, since Alghunaim states in column 1, lines 18-21 that a large number of road markers employ retroreflectors which retroreflect light emanating from oncoming vehicles to provide a signal visible to the operators of the oncoming vehicles. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the road vehicle speed restriction device of Johansson to have a dark, non-reflective color, since determining the coloring of a speed bump is considered a design choice within ordinary skill in the art, and depends upon the environment of the application in which the speed bump is used.

9. Claims 14, 15, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson (WO 91/19856) as applied to claim 1 above and further in view of Chen (US 5,703,719). Johansson discloses the limitations of the claimed invention except for one or more lights, and wherein one or more lights are blinking, and a photo-sensor. Chen teaches a reflector road sign having photo-sensor seen as solar lighting system (20), comprising a light emitting diode lamp (21), a solar cell assembly (22), a control circuit (23), a reflective device (24), and rechargeable battery (25). The control circuit (23) controls the LED lamp (21) to emit light or to flash (Col 2, lines 60-61). The LED lamp can operate when the intensity of the ambient light falls below a predetermined level (Col 1, lines 30-32). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the road vehicle speed restriction device of Johansson to have one or more lights, and wherein one or more lights are blinking, and a photo-sensor, as taught by Chen, since Chen states in

column 1, lines 30-32 that the light can be used to operate when the ambient light falls below a predetermined level, thereby illuminating the road device for vehicle operators.

10. Claims 16 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson (WO 91/19856) as applied to claim 1 above and further in view of Gibson (US 5,710,558). Johansson discloses the limitations of the claimed invention except for a means for counting vehicles, and a controller and one or more weight sensors. Gibson teaches a traffic sensor comprising an elongate carrier (10) embedded in strip (6). The carrier (10) has grooves containing electrical components, such as piezoelectric sensor cable (16), actuated by loads or forces imparted to the strip by the wheels of vehicles, generating an electrical impulse (Col 2, lines 60-65 and claims 1 and 9). The groove additionally receives a coaxial cable (17) conducting signals from sensor (16) to a counter (29) located adjacent roadway (1), as seen in Fig. 1. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the road vehicle speed restriction device of Johansson to include a means for counting vehicles, and a controller and one or more weight sensors, as taught by Gibson, since Gibson states in column 1, lines 60-63 that strips placed on the roadway in traffic can generate an electrical impulse upon being contacted by the wheels of a vehicle. Such an impulse sensitive to vehicular contact can be used to monitor vehicular traffic with a counter.

11. Claims 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson (WO 91/19856) as applied to claim 1 above and further in view of Inaba (US 5,630,674). Johansson discloses the limitations of the claimed invention except for

a means for heating the speed bump cells, and a controller for activating and deactivating the heaters. Inaba teaches plates (2) placed on the road surface comprising a heat emitting body (28) embedded in each of said elastic plates. Lead wires running off from this heating body (28) are connected to a heating power supply (not shown), and the temperature of the road surface is controlled by a temperature controller (not shown). When fallen snow accumulates on the wearing course (4) or when ice may form on the road surface, the heating power supply switches ON and the heating body (28) emits heat so that ice does not form, thereby improving road safety (Col 6, lines 34-38). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the road vehicle speed restriction device of Johansson to have a means for heating and a controller for activating and deactivating the heaters as taught by Inaba, since Inaba states in column 6, lines 34-38 that heat can melt snow and ice, thereby improving road safety.

12. Claims 18, 19, 20, 29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson (WO 91/19856) as applied to claim 1 above and further in view of Griswold (US 3,798,743). Johansson discloses the limitations of the claimed invention except for a motion detector, a means for activating an alarm, wherein the alarm is activated when the vehicle engages one or more of the speed bump cells, and a controller and one or more means for detecting a vehicle, wherein the means for detecting a vehicle is incorporated into the speed bump cell and sends a signal to the controller upon vehicle detection, and the controller activates an alarm upon signal receipt. Griswold teaches an electrical system for sensing the movement or passage of

a vehicle or, and more particularly to a system of this type including a photoelectric cell which may be designed to operate an alarm or signal in response to a change in light incident on the cell, as for example a vehicle entering a service station. For example, the light cell may be installed in a street to operate a traffic counter or a traffic signal as well as to operate an alarm or signal to alert personnel to the presence or movement of a vehicle. With respect to claims 19 and 20, Griswold states in column 2, lines 43-44 that the alarm may be of the visual or audible type. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the road vehicle speed restriction device of Johansson to include a means for activating an alarm, a controller, and one or more means for detecting a vehicle as taught by Griswold, since Griswold states in column 1, lines 22-30 that an alarm provides a signaling means to indicate the movement or passage of a vehicle.

13. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson (WO 91/19856) as applied to claim 21 above and further in view of Prcone et al (US 6,102,612). Johansson discloses the limitations of the claimed invention except for bolts and aligned holes to secured the pad to the bottom of the speed bump cell, or means for securing being selected from the group of an adhesive and one or more clips and fasteners. Johansson fails to disclose the securing means between the pad, seen as ribs (5) and (6), and the sheet metal base (9). Prcone teaches a pavement marker wherein the housing member (72) may be secured to support means (63) by a mechanical means, such as a bolt (73) indicated in dotted lines in FIG. 2, and extending through the center of housing member (72) and into a

corresponding aligned recess in base member (40), not shown. Pricone also teaches in another embodiment described in column 14, lines 40-48, that insert member (212) is secured to support member (60) by known means such as adhesives, welding, or other suitable assembly techniques. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the securing connection between the ribs and bottom member of Johansson to include bolts and aligned holes, or an adhesive, as taught by Pricone, since Pricone states in column 14, lines 40-48 that these are known securing means.

14. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson (WO 91/19856) as applied to claim 1 above and further in view of Narron (US 6,032,684). Johansson discloses the limitations of the claimed invention except for the means for pivotally interconnecting the plurality of speed bump cells comprising a plurality of piano hinges. The means for pivotally interconnecting speed bumps is disclosed by Johansson as chain links (10). Johansson states in claim 2, lines 18-20, that the profile bodies (1) are hingedly interconnected by means of links (10) extending between the end walls (8) of juxtaposed profile bodies. Narron teaches the use of a piano hinge structure (30) that enables two mainframes (12) to be pivoted with respect to each other. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the means for pivotally connecting the speed bumps of Johansson to be piano hinge as taught by Narron, since a pivotable chain link and a piano hinge are both types of hinge connections which achieve the same result to hingedly join adjacent speed bumps.

15. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson (WO 91/19856) and Griswold (US 3,798,743) as applied to claim 29, above and further in view of Gibson (US, 5,710,558). Johansson and Griswold disclose the limitations of the claimed invention except for a weight sensor. Gibson teaches a traffic sensor comprising an elongate carrier (10) embedded in strip (6). The carrier (10) has grooves containing electrical components, such as piezoelectric sensor cable (16), actuated by loads or forces imparted to the strip by the wheels of vehicles, generating an electrical impulse (Col 2, lines 60-65 and claims 1 and 9). The groove additionally receives a coaxial cable (17) conducting signals from sensor (16) to a counter (29) located adjacent roadway (1), as seen in Fig. 1. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the road vehicle speed restriction device of Johansson with means for activating an alarm upon vehicular engagement of the speed bump and a controller and one or more means for detecting a vehicle as taught by Griswold, with a weight sensor as taught by Gibson, since Gibson states in column 1, lines 60-63 that strips placed on the roadway in traffic can generate an electrical impulse upon being contacted by the wheels of a vehicle. Such an impulse sensitive to vehicular contact can be used to monitor vehicular traffic. The weight sensor of Gibson is yet another means for detecting vehicular contact with the speed bump, just as the photoelectric cell of Griswold.

17. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson (WO 91/19856) as applied to claim 1 above and further in view of Stroman (US 6,174,103 B1). Johansson disclose the limitations of the claimed invention except

for a substantially solid means for supporting the weight of the vehicle. Stroman teaches a speed bump which are generally solid in the preferred embodiment, although Stroman notes that hollow speed bumps can be substitute for solid bumps, but solid speed bumps generally wear better and sit better on the road surface because of their weight (Col 3, lines 18-27). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the hollow device of Johansson to be solid as taught by Stroman, since Stroman states that hollow speed bumps can be substituted for solid bumps, and solid speed bumps generally wear better and sit better on the road surface (Col 3, lines 18-27).

Response to Arguments

18. Applicant's arguments filed 3/18/02 have been fully considered but they are not persuasive.

Applicant argues that Johansson does not disclose or teach the recitation of "a means for supporting the weight of the vehicle to support said top point a fixed distance above said bottom". In the arguments in the 3/18/02 amendment, the applicant states that that in Johansson, "the sheet of metal decompresses" (page 5, line 8) and "Johansson only teaches a device that collapses upon impact of a vehicle" (page 5, lines 10-11). *Nowhere in WO 91/19856 does Johansson state that the device decompresses or collapses.* Applicant's basis for distinction is erroneous, since Johansson provides no indication that the sheet metal decompresses or collapses

under a the weight of a vehicle's tires. Johansson describes the process of a wheel traveling over the device on page 3, lines 10-23:

"When the wheels pass the crest of the arched sheet metal element 2, which forms a hump, the wheels will no longer abut against the sheet metal element 2 and will thud down a bit further ahead, so as to achieve contact with the front edge of the profile body 1 or with the roadway 7, depending of the speed of the vehicle. A thump and the sound of a heavy blow on the vehicle immediately make the driver aware that he must drive his vehicle at a reduced speed over this particular section of the road."

It seems the applicant has interpreted the "thump" as occurring as a result of the sheet metal element (2) collapsing and decompressing, though Johansson gives no indication of such action. The thump is generated by the wheels impacting the sheet metal or roadway after passing over the crest, due to the arched shape of the device in relation to the wheels. Therefore, the inherent rigidity of the arched metal meets the recitation of "a means for supporting the weight of the vehicle to support said top point a fixed distance above said bottom".

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexandra Pechhold whose telephone number is (703) 305-0870. The examiner can normally be reached on Mon-Thurs. from 8:00am to 5:30pm and alternating Fridays from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached on (703)308-3870. The fax phone number for this Group is (703) 305-3597.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.



Thomas B. Will
Supervisory Patent Examiner
Group 3600